

AIRCRAFT TAIL CONFIGURATION FOR SONIC BOOM REDUCTION

Walter M. Franklin III
John M. Morgenstern
Howard Lee
Ken J. Hajic
John Scarcello
Alan E. Arslan

ABSTRACT

A supersonic aircraft comprises a wing having upper and lower surfaces and extending from a leading edge to a trailing edge and at least two engine nacelles coupled to the lower surface of the wing on the trailing edge. The supersonic aircraft further comprises an inverted V-tail abutting to the upper side of the wing comprising a central vertical stabilizer, at least two inverted stabilizers coupled to sides of the central vertical stabilizer and coupled to the wing and supporting at least two engine nacelles, and at least two ruddervators respectively pivotally coupled to at least two inverted stabilizers. The supersonic aircraft also comprises a controller coupled to at least two ruddervators and capable of adjusting the aircraft longitudinal lift distribution throughout a flight envelope to maintain a reduced sonic boom and reduced drag trim condition.